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Change Number M-34-02-01	Federal Facility Agreement and Consent Order Change Control Form Do not use blue ink. Type or print using black ink.	Date May 31, 2002
Originator S. J. Veitenheimer <i>[Signature]</i> U.S. Department of Energy (DOE), Richland Operations Office (RL) Office of Spent Nuclear Fuel		Phone (509) 373-9725
Class of Change <input type="checkbox"/> I - Signatories <input checked="" type="checkbox"/> II - Executive Manager <input type="checkbox"/> III - Project Manager		
Change Title Measurements of the amount of spent nuclear fuel removed from the K West Basin, as specified by: M-34-18A, M-34-27-T01, and M-34-28 <div style="text-align: center;">RECEIVED SEP 10 2002</div>		
Description/Justification of Change <div style="text-align: center;">EDMC</div> This change will replace the number of Multi-Canister Overpacks (MCO) to be removed from the K West Basin for each milestone and target date shown above, with a specific weight of spent nuclear fuel, measured in metric tons of heavy metal (MTHM), to be removed from the K West Basin. There are no changes to the due dates for the subject milestones and target date. Note: Struck out text indicates text to be deleted; shaded text indicates text to be added. (Description/Justification of Change continued on page 2)		
Impact of Change This change has no impact on the schedule for fuel removal from the K West Basin. The only effect of this change is to measure the amount of fuel removed in terms of MTHM, rather than a specified number of MCOs.		
Affected Documents 1. Hanford Federal Facility Agreement and Consent Order, Appendix D, as amended		
Approvals <div style="display: flex; justify-content: space-between;"> <div> <i>[Signature]</i> DOE <i>Laurence E. Stollis</i> EPA N/A Ecology </div> <div> 4/10/02 6-11-02 _____ Date </div> <div> <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved _____ Approved Disapproved </div> </div>		

Description/Justification of Change (continued from page 1)

The revised milestones and target date are as follows:

M-34-18A	<p>Complete Removal of 190 Multi-Canister Overpacks of Spent Nuclear Fuel from the K West Basin. This interim milestone will be complete when 190 multi-canister overpacks of spent nuclear fuel have been removed from the K West Basin and transported to the Cold Vacuum Drying Facility.</p> <p>Complete Removal of Spent Nuclear Fuel Equivalent to 957 Metric Tons Heavy Metal from the K West Basin. This interim milestone will be complete when spent nuclear fuel equivalent to 957 metric tons heavy metal has been removed from the K West Basin and transported to the Cold Vacuum Drying Facility.</p>	12/31/2002
M-34-27-T01	<p>Complete Removal of 244 Multi-Canister Overpacks of Spent Nuclear Fuel from the K West Basin. A cumulative total of 244 multi-canister overpacks of spent nuclear fuel must have been transported from the K West Basin to the Cold Vacuum Drying Facility.</p> <p>Complete Removal of Spent Nuclear Fuel Equivalent to 1,252 Metric Tons Heavy Metal from the K West Basin. This interim milestone will be complete when spent nuclear fuel equivalent to 1,252 metric tons heavy metal has been removed from the K West Basin and transported to the Cold Vacuum Drying Facility.</p>	05/31/2003
M-34-28	<p>Complete Removal of 311 Multi-Canister Overpacks of Spent Nuclear Fuel from the K West Basin. A cumulative total of 311 multi-canister overpacks of spent nuclear fuel must have been transported from the K West Basin to the Cold Vacuum Drying Facility.</p> <p>Complete Removal of Spent Nuclear Fuel Equivalent to 1,619 Metric Tons Heavy Metal from the K West Basin. This interim milestone will be complete when spent nuclear fuel equivalent to 1,619 metric tons heavy metal has been removed from the K West Basin and transported to the Cold Vacuum Drying Facility.</p>	12/31/2003

The purpose of these two milestones and the target date is to ensure that a specified amount of spent nuclear fuel is removed from the K Basins on a schedule that will support milestone M-34-18B, which requires that all spent nuclear fuel be removed from the K Basins by 07/31/2004.

The revised text for the milestones and target date provides a more precise method of measuring the amount of spent nuclear fuel removed from the K West Basin by the specified dates. The SNF Project is required to account for spent nuclear fuel removed from the basin in terms of MTHM to meet nuclear material accountability requirements. The amount of fuel loaded into each MCO is carefully calculated and tracked for accountability purposes. The original amount of fuel stored in the K West and K East Basins, was measured in terms of MTHM when it was placed there. The amount of fuel in K West Basin was 957 metric tons and the amount of fuel in the K East Basin was 1,149 metric tons.

The amount of spent nuclear fuel has also been tracked by the number of MCOs removed from the K West Basin, to comply with M-34-18A, M-34-27-T01, and M-34-28. The EPA preferred this method of tracking in March 2001, when these milestones and target date were finalized as part of Change Request M-34-01-01. The number of MCOs required to contain the fuel was an estimate, based on the number of scrap baskets expected for each MCO. The SNF Project estimated that an average of one scrap basket would be required for every five MCOs. The actual amount of scrap that has been generated during the fuel cleaning and fuel loading processes is actually much less than projected. None of MCOs removed to date have contained a scrap basket and there is very little scrap in storage at this time. The result is that the required number of MCOs decreases as the amount of scrap generated decreases.

The specific rationale for converting to MTHM as the method of measurement for each milestone and target date is shown below.

M-34-18A – The intent of this milestone was to remove all the fuel originally stored in the K West Basin. The weight of this fuel was established as 957 MTHM and it was stored in 3,842 canisters. The calculation of 190 MCOs was an estimate in March 2001, based on the total number of fuel canisters in the K West Basin, the number of fuel elements per canister, the number of fuel elements per MCO, and the assumption that an average of one scrap basket would be required for every fifth MCO. The calculations and assumptions are shown in detail in Change Request M-34-01-01.

At this time, it is clear that the equivalent amount of all the fuel originally stored in the K West Basin (957 MTHM) will be packaged in less than 190 MCOs. The SNF Project expects that the actual number of MCOs that will be required to remove the equivalent amount of fuel from

the K West Basin fuel may be closer to 185. A more precise projection is difficult, due to the uncertainty associated with scrap generation and the mix of K East Basin fuel with K West Basin

fuel. Conversion to MTHM as the method of measurement provides a very accurate method of tracking the amount of fuel removed from the K West Basin and takes advantage of the current tracking method used for nuclear material accountability. Therefore, removal of 957 MTHM from the K West Basin represents an amount of fuel to that which was originally stored in the K West Basin and will be used as the completion criteria for M-34-18A.

M-34-27-T01 – The intent of this target date was to provide an indication of how fuel removal from the K West Basin was progressing. The due date of 05/31/2003 was selected as a “snap-shot” in time to provide an indication of progress five months after completion of M-34-18A. The removal of a specified number of MCOs by 05/31/2003 was to serve as an indication that the fuel transfer from the K East Basin to the K West Basin was functioning as planned and that removal of fuel from the K Basins was on schedule. The SNF Project baseline schedule for fuel removal (attached to this change request) has remained stable since 03/31/2001. This schedule shows that 1,252 MTHM will have been removed from the K West Basin by 05/31/2003. Based on 1,252 MTHM, a cumulative total of 244 MCOs was calculated for removal, as described in Change Request M-34-01-01. The cumulative total of 1,252 MTHM is consistent with the Project’s baseline schedule and will be used as the completion criteria for M-34-27-T01.

M-34-28 – This interim milestone was also established to track progress toward the SNF Project’s commitment to remove all fuel from both the K West Basin and the K East Basin by 07/31/2004 (M-34-18B). The M-34-28 due date is seven months after completion of M-34-27-T01, at which time the SNF Project baseline schedule indicates that a cumulative total of 1,619 MTHM will have been removed. The cumulative number of MCOs to be removed from the K West Basin by 12/31/2003 was calculated as 311 in Change Request M-34-01-01, based on 1,619 MTHM (see attached baseline schedule).

The same rationale for using MTHM as the basis for measurement, rather than MCOs, is the same as described above for the revisions to M-34-18A and M-34-27-T01. The cumulative total of 1,619 MTHM is consistent with the Project’s baseline schedule and will be used as the completion criteria for M-34-28.

TPA Milestones and Targets Referenced to Metric Tons of Heavy Metal (MTHM)

